

REMARKS

Claims 1-8 are pending in this application. By this Amendment, claims 1 and 6 are amended to further distinguish from the cited references. Support for the amendments can be found in the present specification at, for example, paragraphs [0022]-[0023] and Fig. 2. No new matter is added.

In view of the foregoing amendments and the following remarks, reconsideration and allowance of claims 1-8 is respectfully requested.

35 U.S.C. §102(a) Rejection

Claims 1 and 3-5 were rejected under 35 U.S.C. §102(a) as allegedly being anticipated by Harima (U.S. Patent No. 6,647,945). Applicants respectfully traverse this rejection.

Amended claim 1 requires "a hollow portion that is a closed space having no member therein". The benefit of this feature of claim 1 is that the weight of the reinforcing member can be reduced without a reduction in strength. See paragraph [0022] and [0023] of the specification. For at least the following reasons, Harima does not describe at least this feature of claim 1.

Harima describes a structure of bearing housings of a cylinder block that comprise an aluminum alloy for the cylinder block and a plurality of fiber reinforced metal (FRM) areas. See the abstract of Harima.

The Patent Office alleges that Harima in Figs. 2 and 3 describes a hollow portion, as recited by claim 1. However, the bearing bosses 4 have semicircular bearing surfaces 9 disposed along the centerline of the bearing bosses 4, and the semicircular bearing surfaces 9 rotatably support the crankshaft 7 thereon. See col. 2, lines 53-55 of Harima.

However, the bearing bosses 4 are semicircular open areas, and not a "hollow portion that is a closed space...". Further, even if one were to consider the bearing bosses 4 to be a "hollow portion that is a closed space", Harima describes that a member (the bearing surfaces

9 and the crankshaft 7) is inserted therein. Thus, the semicircular bearing bosses 4 are not a hollow portion that is a closed space having no member therein.

Further, as illustrated in Fig. 3 of Harima, the bearing housing 4 is provided with FRM areas 10 that completely fill in the spaces, and thus there is no hollow portion having no member therein described in Fig. 3 of Harima.

Thus, Harima, in no way, describes a hollow portion that is a closed space having no member therein, as required by claim 1.

For at least the foregoing reasons, Harima does not describe all of the features of amended claim 1. Withdrawal of the rejection is thus respectfully requested.

35 U.S.C. §103(a) Rejection

Claims 1-8 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Rivers (U.S. Patent No. 6,148,785). Applicants respectfully traverse this rejection.

The Patent Office alleges that Rivers describes all of the features of claim 1 except that a cast metal is integrally cast with the reinforcing member. See page 3, second paragraph, of the Office Action. However, for at least the following reasons, Rivers does not render obvious all of the features of claim 1.

Amended claim 1 requires "a hollow portion that is a closed space having no member therein". The benefit of this feature of claim 1 is that the weight of the reinforcing member can be reduced without a reduction in strength. See paragraph [0022] and [0023] of the specification. For at least the following reasons, Rivers does not describe, or provide any reason or rationale for one of ordinary skill in the art to have come to, at least this feature of claim 1.

Rivers describes a machine using pistons and cylinder blocks or liners that are fabricated from carbon-carbon composite materials. See col. 1, lines 27-33 of Rivers. Rivers describes that stacked piles of carbon fabric 95 that make up cylinder block 92 (allegedly

equivalent to the reinforcing member of claim 1) are captured between the head 96 and the crankcase 98 using a plurality of head bolts 97 to secure the cylinder block 92. See col. 5, lines 42-47, of Rivers.

However, as illustrated in Fig. 8 of Rivers, a carbon-carbon composite piston 81 is inserted into a cylinder bore 93 of the cylinder block 92. See Figs. 8-9 and col. 5, lines 27-40 of Rivers. Accordingly, even if the cylinder bore were considered to be a hollow area, Rivers describes that a member (a piston 81) is inserted therein. Thus, Rivers does not describe any hollow portion having no member therein.

Similar to claim 1, claim 6 also requires a reinforcing member to have a reinforcing member having a hollow portion that is a closed space having no member therein. For all of the reasons detailed above with respect to claim 1, Rivers does not render obvious the production method of claim 6.

For at least the foregoing reasons, Rivers does not describe, or provide any reason or rationale for one of ordinary skill in the art to have come to, a reinforcing member that is integrally cast with a cast metal having a hollow portion that is a closed space having no member therein, as required by claims 1 and 6.

Withdrawal of the rejection is thus respectfully requested.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-8 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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